# Transformation through research? The AC+erm Project and Electronic Records Management

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AC+erm is a 3-year project being undertaken by Northumbria University and funded by the Arts & Humanities Research Council (AHRC). The project name is derived from its aim, which is to support **A**ccelerating the pace of **positive C**hange in **e**-**r**ecords **m**anagement. This article provides:

1. a summary of the project, including an explanation of the research methodology and the nature of outputs
2. brief snapshots of some of the findings to date, comprising
   - sample solutions to people-related issues in electronic records management (ERM)
   - short analysis of the issues relating to Web 2.0 and cloud computing technologies that have emerged to date.

## Project Summary[1]

- ## Overview

The phrase "*accelerating the pace of positive change"* was used by John McDonald, whose work is familiar to all in our field. His 1995 article '*Managing Records in the Modern Office – Taming the Wild Frontier'*[2] had a considerable impact on thinking about ERM.

A decade after his 'Wild Frontier' article John McDonald reviewed his vision for ERM. He concluded that the frontier of the modern office is still 'wild,' with leadership (and lack of it) the "single most important factor".[3] He also proposed some ways out of the wilderness, one of which – designing an architecture for ERM – was selected as the focus for AC+erm.

### *Aims and objectives*

The project aims to forge a link between theory and practice, and to engage with as many disciplines, stakeholders and user groups as possible. It is intended to add value to the theory and practice of records management (RM) through increased knowledge and understanding, by facilitating partnerships between disparate constituencies and by strengthening the academic discipline of RM itself, so that it can more effectively provide support for the profession and develop its theoretical underpinnings.

### *Project participants*

The **project team** is Sue Childs, Rachel Hardiman and Julie McLeod, with additional input from a PhD student – a full-time equivalent staffing level of 1.8 people.[4] A specially constituted Advisory Panel scrutinises the research process and progress and FARMER, the Forum for Archives & Records Management Education & Research, are involved in its evaluation.[5]

A wider range of experts from the various stakeholder groups participate through the three project **Delphi studies**; their contributions are supplemented by delegates attending the project **colloquia**.

### *Research process*

The project is a qualitative study to gather data from a range of views, experiences and roles, and to develop potential solutions. It is not, for the most part, reducible to numerical or statistical expression. It has three main phases:

- a comprehensive Systematic Literature Review
- an investigation of the three facets of designing an architecture for ERM – **people** issues; understanding work **processes**; and **systems and technologies**;
- dissemination of findings.

- ## Methodology

### *Systematic Literature Review*

The project began with a review of the extant literature on ERM since the last comprehensive literature review published in 1996.[6] The reviewing technique is the **Systematic Literature Review**, a technical term denoting a method which attempts to remove reviewer bias by ensuring that the criteria for selection are based more on external, pre-selected factors than on the reviewer's own knowledge.[7]

***Investigation***

The **Delphi technique**[8], developed by the Rand Corporation in the US, is being used to gather primary data from selected experts to develop an opinion on the research topic. It involves a series of questionnaires with all participants anonymous to each other and to the public.

The AC$^{+}$erm Delphi studies are conducted electronically, allowing international participation. The studies for all three facets of ERM architecture have now been carried out.

A series of UK-based **colloquia** are being used to validate and extend the Delphi studies. The first was held in London in October 2008 and the second in Birmingham in April 2009. The third is scheduled for September 2009 (see box below).

The responses to the Delphi questionnaires are analysed in two main ways. The first is thematic analysis, identifying the themes that emerge from the individual responses. A combination of controlled terms and facets is used to standardise the responses. The second is a qualitative research tool known as 'phenomenological analysis', which allows a researcher to explore the topic (the phenomenon) subjectively, under a number of standard headings.

***Outputs***

Interim findings from analyses of the literature and of the responses to the Delphi Study questionnaires, and from the discussions and explorations that take place at the colloquia, are published as soon as possible, as are slides from presentations at conferences and other events. To date, the project has made more than 60 separate documents available through the AC+erm website http://www.northumbria.ac.uk/acerm.

The material gathered through the Delphi studies is very rich and discursive, so many of the interim findings are more in the nature of 'headlines' than lengthy exposition. When all of the data has been gathered and fully analysed, findings will be published through more formal channels such as journal articles.

Outputs also comprise **vignettes** – tools and exemplars drawn from research findings – in a number of formats and tailored to a variety of audiences.

The first main gateway to outputs is the Dissemination area of the project website, http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/. This is supplemented by the project blog, http://acerm.blogspot.com/ and brief announcements made through Twitter, http://twitter.com/Northumbria_RM.

## A Snapshot of Some Findings

- ### Sample solutions to people-related ERM issues

After discussion and refinement, 12 issues emerged as central to the People facet of designing an architecture for ERM. The participants proposed solutions to all of the issues / problems identified – approaches that worked and approaches to avoid – which were synthesised and grouped into a number of categories. What follows is a summary of solutions relating to the issue ranked 'most urgent'.

**Most urgent issue: "Executives and managers lack understanding of RM and their role within it"**

| *Solution Category* | **What Works** | **What to Avoid** |
|---|---|---|
| **Accountability** | Making senior managers responsible for missing records | |
| **Benefits** | Linking ERM solutions to dealing with real problems | |
| | Promoting/educating senior managers about RM/ERMS using individual benefits as examples | |
| **Education & development** | Demonstrating the *problems* of poor RM using real case examples | |
| | Demonstrating the *value and benefits* of RM/ERMS using real case examples | |
| | Promoting/educating about RM/ERMS using individual business processes and requirements as examples | |
| **Holistic** | Presenting holistic approach to *Information Management* rather than focussing narrowly on RM | |
| **Less, not more** | Designing ERM systems that are easier to use | ERM systems intended for use by senior managers that cover activities previously undertaken by their secretaries |
| **Organisational** | Establishing the RM department under the legal corporate function | Situating RM under the IT corporate function |
| | Establishing a single, board-level management role with IM as a single corporate function | |
| **Planning** | Organising and planning ERM systems from start | Working from the bottom up |
| **Relationships** | Building a 'virtual team' of key influencers and specialists to work with you in getting the message across to senior management | Undertaking ERM implementation as a personal project of senior manager(s) |
| | Engaging personally with executives and senior managers | 'Going it alone' as an organization's records manager |
| | Involving the senior level in ERM systems development from the outset | Proceeding with solutions without executive backing |
| | Making executive sponsorship a key personal mission | Submitting wordy, long-winded reports to senior managers |
| **'Big stick'** | | Using compliance as a driver – senior managers may simply accept the risk of poor recordkeeping |
| | | Using inaccurate 'scare stories' or poorly-understood legislation to support your case |
| **Introspection** | | Focusing more on professional records concerns than on the stakeholders' aims and expectations |
| **Marketing** | | Bombarding senior managers with information and ideas |
| | | Using generic, corporate RM selling points – be specific and relevant |

- **Web 2.0 and cloud computing technologies — issues emerging from the research**

***Web 2.0***

Web 2.0 is defined as "a term that refers to a supposed second generation of Internet-based services. These usually include tools that let people collaborate and share information online, such as social networking sites, wikis, communication tools, and folksonomies."[9] Web 2.0 is less about technology and more about changes in the way people use the Internet.

The use of Web 2.0 systems has spread from people's personal lives into the world of work as a number of items from our systematic literature review have identified.[10] This raises the issue of whether or not the content generated by such use requires RM. Participants in our Process and Technology Delphis discussed this topic without clear agreement. Some respondents thought that these systems did not need management. The content was transient and lacked corporate value. It could therefore simply be deleted. Web 2.0 systems closely resemble oral communications, and organisations have usually not attempted to capture and keep phone conversations. Others thought they *should* be managed, e.g. for their cultural content, and some were undecided.

Web 2.0 systems have benefits – mobile working, home working, collaborative working. They also have problems – lack of security and the creation of business evidence that lacks veracity and authority and is therefore vulnerable to legal challenges.

The application of Web 2.0 for organisational processes and its impact is still unknown – there has been much discussion but little implementation. However, organisations should avoid sleep-walking into a wide use of Web 2.0 as this will create a similar (if not greater) problem to that currently experienced with email.

Organisations need to reflect on their business needs and the business purposes for which they would need to use Web 2.0 systems. Otherwise, they risk unnecessary use – use 'just for the sake of it'. Organisations need to identify what corporate records already reside in Web 2.0 technologies, the information value of these records and the risk of management/non-management.

Strategies for managing the use of Web 2.0 systems include:

- banning or locking down – though this is barely feasible. Organisations may then have to purchase expensive enterprise versions of these systems to sit inside their firewalls. And if users are banned from using one technology, they will seek to use the next new technology that comes along
- limiting use of Web 2.0 systems to certain activities which do not raise RM concerns, and educating staff about these permitted uses
- establishing an organisational official presence in all of the Web 2.0 technologies for staff to use for work purposes – as most of these are free it can be a cost saving.

If use of Web 2.0 systems generates important or administrative records then these will need to be captured into corporate recordkeeping systems – most would probably only require simple storage/archiving. However there are some problems with this approach – automatic capture is currently lacking; records usually lack user-generated metadata and Web 2.0 systems currently lack the ability to capture the required metadata for RM; information retrieval is difficult. A future requirement for Web 2.0 tools is embedded RM capability.

If records from Web 2.0 are to be managed, policies, standards, procedures, codes of conduct, guidance and training will be required. The respondents debated whether traditional RM principles and methods would be applicable or whether new approaches were needed.

However, a word of warning was given. It could be argued that as the use of email became more controlled within organisations, users missed the loss of informality in communication and sought to regain it through Web 2.0 systems. If these systems are then controlled, users will still desire informality, and look for the next generation of technologies to provide this – and ever onwards.

***Cloud computing***

Cloud computing is defined as "a style of computing in which dynamically scalable and often virtualised resources are provided as a service over the Internet. … The concept generally incorporates combinations of the following:

- infrastructure as a service (IaaS)
- platform as a service (PaaS)
- software as a service (SaaS)

- other recent (ca. 2007–2009) technologies that rely on the Internet to satisfy the computing needs of users. Cloud computing services often provide common business applications online that are accessed from a web browser, while the software and data are stored on the servers."[11]

A similar style of computing services can be provided within an organisation as an internal cloud.

Participants in our Process and Technology Delphis discussed the use of external cloud computing services by organisations and the RM implications. They indicated that cloud computing systems are still a novelty; not many organisations currently use them. Their adoption could be driven by expectations from consumer experience, although there are significant differences between consumer and corporate systems. They offer: benefits for remote working; applications comparable to those that users are familiar with in the workplace; greater security than moving data around by external devices. Though not noted by the respondents, they can provide cost benefits to organisations.

However, cloud computing systems also have their downsides. They can require replication of the organisation's IT infrastructure. Organisations feel a lack of control over their data. Important records need backing up on organisational servers for security, with increased costs. Data can be 'trapped' within the hosted service. There is a lack of clarity about where the information really resides and who 'owns' it. There could be the creation of a lack of responsibility – 'out of sight out of mind'. Systems can have poor functionality and lack RM capabilities. The information security risks are a big concern and a reason for lack of use of cloud computing systems by organisations.

Organisations need to consider their business needs and whether cloud computing systems are applicable and whether the risks of their use are acceptable and manageable. This will depend on the nature of the organisation; multi-site / multi-national organisations or separate organisations working in collaboration on a project, might find external cloud computing systems beneficial. Some organisations might find internal cloud systems appropriate: providing the benefits of remote/distributed working without the risks. Some might not be willing to risk any of their records out in the cloud, or might only release certain types of records.

The RM approach is the same as for normal systems run in-house. A weakness is a greater reliance on compliance with policies and procedures by users. User responsibilities require definition and transparency. Consultation with staff about processes and training requirements, and the provision of staff development, training and guidance is therefore important. Systems need configuration for distributed data management. Procedures for access, security and RM (with audit trails) are required. One important issue is the planning of exit strategies and migration of data back into corporate systems if there is a problem or the organisation wants to terminate its use of cloud computing systems. Such strategies need to be tested prior to use of systems.

The providers of cloud computing systems have responsibilities too. They need to consult with their clients about business processes and incorporate their clients' information management policies. They need to provide guarantees to their clients: maintenance of access, provision of access controls, integrity of data, back up of data, sustainability of the systems over time.

## Can I Get Involved in the Project?

We welcome all participation in the project, which is dependent on the generosity of experts and practitioners in the RM and other fields for its success. While the Delphi studies have now been carried out, we will be holding two further colloquia, one in September (see box for details) and one in early 2010. We would also encourage participation and comments through the blog or via e-mail.

***AC+erm Project publication and contact details***

Website: http://www.northumbria.ac.uk/acerm

Blog: http://www.acerm.blogspot.com/

e-mail: eb.acerm@northumbria.ac.uk

Twitter: http://www.twitter.com/Northumbria_RM

**Third AC+erm Project Colloquium: Tackling the Technology Issues Together**

24 September 2009, The Merchants' Hall, Edinburgh (http://www.merchantshall.co.uk/)

- How are we tackling the technology issues of managing e-records?
- Have we got it right?
- Are you searching for new approaches/ideas?
- Do you want to contribute to finding solutions and further test some project 'tools'?

This free event shares the latest results of a major evidence-based research project taking a strategic approach to accelerating positive change in electronic records management. Discover what you can adopt from the experience of different stakeholders in different disciplines, sectors and countries. Compare your approach and contribute your knowledge and experience to the findings. Try out some of the tools being developed in the project and share your views.

The registration form can be downloaded from
http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/coll/coll3/

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[1] This section of the article is based on a presentation made by Rachel Hardiman at the 2009 RMS annual conference

[2] McDonald, J. (1995), 'Managing records in the modern office – Taming the wild frontier', *Archivaria* 39, pp70–79.

[3] McDonald, J. (2005), 'The wild frontier ten years on', in: McLeod, J. and Hare, C.E. (eds). *Managing Electronic Records*. London: Facet.

[4] Project leader: Prof Julie McLeod; Research Fellow: Susan Childs; Senior Research Assistant: Rachel Hardiman; PhD student: Naomi Hay-Gibson. Catherine Hare and David Rossin also participated in the early stages of the project.

[5] Advisory Panel: two overseas experts (John McDonald and Adrian Cunningham); six academics in a range of disciplines; four practitioners / senior managers (including Steve Bailey); two visiting professors to the School of Computing, Engineering and Information Sciences at Northumbria (Philip Jones and Frank Stowell).

FARMER: http://www.digicult.info/farmer/ [Accessed 2009.06.19]

[6] Erlandsson, A. (1996), *Electronic records management: A literature review*. ICA Studies 10. Paris, International Council on Archives http://www.ica.org/en/node/30028 [Accessed 2009.06.19]

[7] See, e.g., NHS Centre for Reviews and Dissemination (CRD) http://www.york.ac.uk/inst/crd/SysRev/!SSL!/WebHelp/SysRev3.htm [Accessed 2009.06.19]

[8] Linstone, H.A. and Turoff, M. (eds) *The Delphi Method: Techniques and Applications*. Reading, Mass: Addison-Wesley, 1975. [Also available online (2002) at http://is.njit.edu/pubs/delphibook/ [Accessed 2009.07.06]]

[9] Search Engine Watch http://searchenginewatch.com/define

[10] Dearstyne, B.W., 'Blogs, mashups and wikis - Oh, my!', *Information Management Journal* 41(4) 2007: pp. 24–34; Cunningham, P. and Wilkins, J. 'A walk in the cloud'. *Information Management Journal* 43(1) 2009: pp. 22–32; CMSWatch, *Enterprise social software report 2008: Networking & collaboration within and beyond the enterprise*. 2008; Bailey, S., *Records Management Futurewatch blog* (http://rmfuturewatch.blogspot.com/).

[11] Wikipedia, http://en.wikipedia.org/wiki/Cloud_computing [Accessed 2009.07.06]